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FEB 24 1966

CURRENT SERIAL REGORDS

WATER SUPPLY OUTLOOK

and FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS for MONTANA

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE, and MONTANA AGRICULTURAL EXPERIMENT STATION

Data included in this report were obtained by the agencies named above in cooperation with Federal, State, and private organizations listed on the inside back cover of this report.

IIIIIIIIIIIII AS OF IIIIIIIIIII JAN. 1, 1966

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season as they affect runoff will add to be an effective average. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data or reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

Listed below are water supply outlook reports based on Federal-State-Private Cooperative snow surveys. Those published by the Soil Conservation Service may be obtained from Soil Conservation Service, Room 507, Federal Building, 701 N. W. Glisan, Portland, Oregon 97209.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
WESTERN UNITEO STATES	MONTHLY (FEBMAY)	PORTLANO, OREGON	ALL COOPERATORS
BASIC DATA SUMMARY	OCTOBER 1	PORTLANO, OREGON	ALL COOPERATORS
STATES			
ALASKA	MONTHLY (MARMAY)	PALMER, ALASKA	ALASKA S.C.D.
AR I ZON A	SEMI-MONTHLY (JAN.15 - APR.1)	_ PHOENIX, ARIZONA	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
GOLORAGO ANO NEW MEXICO	MONTHLY (FEBMAY)	FORT COLLINS, COLORAO	O — COLO. STATE UNIVERSITY COLO. STATE ENGINEER N. MEX. STATE ENGINEER
OHAO	MONTHLY (JANJUNE)_	BOISE, IOAHO	IOAHO STATE RECLAMATION ENGINEER
MONTANA	MONTHLY (JANJUNE)	BOZEMAN, MONTANA	MONT, AGR. EXP. STATION
NEVAOA	MONTHLY (JANMAY)	RENO. NEVAOA	NEVAGA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
ORE GON -	MONTHLY (JANJUNE)	PORTLANO, OREGON	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
UTAH	MONTHLY (JANJUNE)_	_ SALT LAKE CITY, UTAH.	UTAH STATE ENGINEER
WASHINGTON	MONTHLY (FEB. JUNE).	_ SPOKANE, WASHINGTON_	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEBJUNE)	CASPER. WYOMING	WYOMING STATE ENGINEER
	PUBLISHED E	BY OTHER AGENCIES	
REPORTS	ISSUED		AGENCY
BRITISH COLUMBIA	MONTHLY (FEBJUNE)		CES SERVICE. DEPT. OF LANOS. TER RESOURCES, PARLIAMENT BLDG., , CANAOA
CALIFORNIA		CALIF. DEPT. O	F WATER RESOURCES, P.O. BOX 388,

WATER SUPPLY OUTLOOK

FEDERAL-STATE-PRIVATE COOPERATIVE SNOW SURVEYS

for

MONTANA

Report Prepared

Ву

Phillip E. Farnes Snow Survey Supervisor

And

Stanley E. Cook
Assistant Snow Survey Supervisor

Snow Survey and Water Supply Forecasting Branch
Soil Conservation Service
Box 855
Bozeman, Montana

Issued By

A. B. Linford State Conservationist Soil Conservation Service Bozeman, Montana J. A. Asleson, Director Montana Agricultural Experiment Station Bozeman, Montana



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LIST OF COOPERATORS Inside Back	Cover



MONTANA WATER SUPPLY OUTLOOK as of January 1, 1966

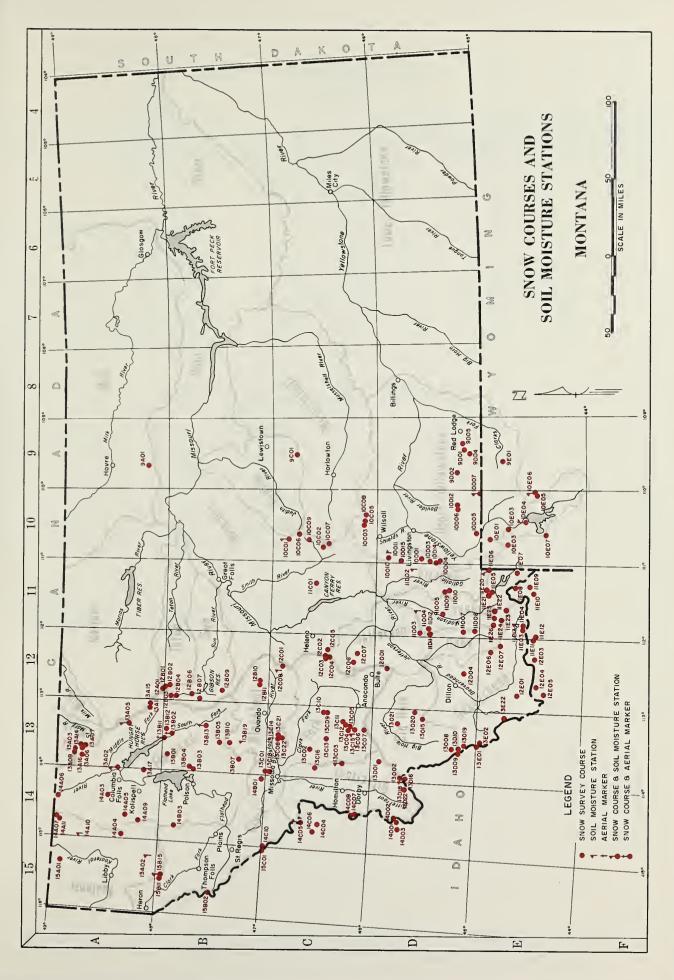
Snow measurements at a few courses indicate the January 1 snow accumulation over the majority of the state is about one-half that normally on the ground. This is the result of almost non-existent mountain precipitation since September. Snow accumulation in the Yellowstone River headwaters is about 75 percent average.

Four snow pillows are now in operation in Montana. These pillows are 12 foot diameter butyl rubber filled with methanol alcohol. Continuous records of snow accumulation and melt are being obtained by either on-site recorders or remote telemetry. Beginning with the February 1 publication, daily snow water contents since November 1 will be plotted graphically for each installation. Values for the December 1 and January 1 water contents are published in this issue.

Soil moisture is generally near or above average as the result of heavy precipitation during September.

Reservoir storage is generally near or above average in both irrigation and multipurpose reservoirs.





INDEX to MONTANA SNOW COURSES and SOIL MOISTURE STATIONS

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	Drainage Basin & Course Name		RU8Y RIVER	Clover Meadow Olvide Notch	Abundance Tabe	Poolhen	Jahnke Greek	JEFFEKSON KIVEK Berry Meedow Picalc Grounds Pinestone Pees	MADISON RIVER	Cell Road Pour Mile	Freezeout Lake Freezeout Mountain Mebgen Ogs Jock Creek	Lover Treek Meridian Creek North Meedow	Potomageton Park Sentinel Creak	West Yellowstone	GALLATIN RIVER Arch Pells	Bear Besin Bridger Boul	Hood Meedow Little Park New World	Twenty-One Mile MISSOURI RIVER MA		Chessman Reservoir Ocadmen Creek Elk Peak Greschopper	kinge Mill Rocky Boy Stemple Pess	Ten Mile Lower Ten Mile Middle Ten Mile Upper	SUN-TETON-MARIA	Badger Pass Cebin Creak	Freight Greek Gost Mountein	Waldron Creek West Fork Wrong Creek	JUDITH RIVER	Crystel Lake Spur Park	UPPER YELLOWSTO	Bald Ridge Camp Senia Crevice Mountain Grissly Peak	Monusent Peak Northeast Entrence Forcupine R. S. Secajewes South Power Shelde	Weet Reebud
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SNOW COURSES	Twp. Range	IVER		26N 25N 36N	38N		26N 28N 23N	288 318 8 5 288 318 8 5 288 318 8 5	32 S6N	3 % F	35N 17N 25N 25N	26N 20N	No	15N	18N 8N 6N	88 H-17	138	5.5	10N 2N	72 EN	15N	9N 2N 2S	15.51	ឯងខ		35N 35N	35N		IVER	88 88 83 82	2 8 2 2 2 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1	17.5
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SNO	Elev.	COLUMBIA RIVER BASIN		2800 2800 2900 2900 2900 2900 2900 2900	2450	3	5150 5900 6750	5,500 5,500 5,500 5,500 5,500	2,170	3696	6330 6330 7000 8300 8300 8300	3580	200	5700	7800	7200 7200 5900	6450 5450 4650	25000	6500	6500 7400 7400	90099	64,80	2970	6570 7940 6510		7900	2200		MISSOURI RIVER	7600	8100 74,80 74,80	8850
	Musber	C		15815	17,401	2,000	13403	13417 13402 13804 1409	13812	14406	13807 13802	13811	13613	2822	13810	13010	13004	13C12 13C12 13C03	13002	13018 13007 13006 13001	14801	13001	1,007	1,001	Z	13403	13406		M	1,300 1,200 1,500	13009	12201
	Drainage Basin & Course Name		KOOTENAI RIVER	Baree Creak Baree Trall Brush Creek Grees Creek	Measel Olvide	FLATHEAD RIVER	Bassoo Peak Basver Lake 81g Creek	Camp Misery Desert Mountein Petty Creek Griffin Creek Olylde	Gunsight Lake Hell Roaring Diwide	Kishenehn Logen Creek	Marias Pees Mineral Creek North Pork Jocko Spotted Bear Mountein Teinyn Jake	Twin Creeks Dpper Bolland Lake	GLARK FORK RIVER	Copper Creek	Coyote Hill El Dorado Mine Fred Burr Pese	Gold Greek Lake Heart Lake Trell Moodoo Greek	InterBeard Labrecht Forest No. 3 Labrecht Porest No. 4	Lubrecht Porest No. 6 Red Lion Skalkaho Surmit	Southern Cross	Spring Gulch Storm Lake Stuart Mill Stuart Mountain	TV Momtain SITTERROOT RIVER	Ambrose East Pork R. S. Gibbons Pees	Jost Morse Nez Perce Casp	New Ferce Pess Saddle Mountain Twin Laken	ST. MARY RIVER BASIN	Iceberg Lake No. 3 Josephine Lover No. 9 Mount Allen No. 7	Piegan Pess No. 6 Ptermigen No. 8			Bloody Otck Carter Croek Dad Creek Lake	FLANDOT Springs Gold Stone Lakeview Canyon Lakeview Ridge Lombi Pass	White Pine Ridge

SNOW SURVEY DATA

AS OF DECEMBER 1, 1965

					tinches			
		(CI	URRENT DATA	1	PAST F	ECORD	
	SNOW COURSE		DATE	SNOW DEPTH	WATER	WATER C	ONTENT	
NO.	NAME	ELEVATION	SURVEY	DEFIN	CONTENT	LAST YEAR	AVERAGE	
		COLUMBIA	RIVER BAS	SIN				
CLARK F	ORK RIVER							
13013	Black Pine Pillow	7100	11/30	SP	1.4	-	-	
GALLATI	N RIVER							
10D15 10D13 10D16	Bridger Bowl Pillow Lick Creek Pillow Shower Falls Pillow	7250 6860 8100	12/1 12/1 12/1	SP SP SP	3.9 1.3 4.5	- 2.9 -	-	

SP - Snow pillow observation - water content only.



SNOW SURVEY DATA

AS OF JANUARY 1, 1966

		AS OF J	ANUARY I,	, 1966			(Inches)
			С	URRENT DATA		PAST R	
	SNOW COURSE		DATE	SNOW DEPTH	WATER	WATER C	ONTENT
NO.	NAME	ELEVATION	SURVEY	02.111	CONTENT	LAST YEAR	AVERAGE
		COLUMBT/	RIVER BA	NCTN			
		COHOLDIA	L ILLVIII DE	10111			
FLATHEA	D RIVER						
13A02	Desert Mountain	5600	12/30	23	5.0	10.3	6.6*
14A03	Hell Roaring Divide	5770	12/30	36	8.3	22.2	-
13B13	Holbrook	4530	12/29	6	1.OA	6.3A	3.3*
13A05	Marias Pass	5250	12/29	24	4.9	10.8	8.0
13B02	Spotted Bear Mountain	7000	12/29	18	3.2A	9.0A	7.6*
13B11	Twin Creeks	3580	12/29	8	1.2A	7.8A	5.8*
CLARK F	ORK RIVER						
13013	Black Pine	7100	12/28	12.	2.2	_	_
13013	Black Pine Pillow	7100	12/28	SP	2.4	_	-
13B10	Coyote Hill	4200	1/3	15	2.4	6.1	5.0*
15B02	Lookout	5250	,			17.6	17.6*
13021	Lubrecht Forest No. 3	5450	1/2	10	1.6	3.1	3.3*
13022	Lubrecht Forest No. 4	4650	1/2	5	1.1	1.8	1.8*
13008	Lubrecht Forest No. 6	4040	1/2	5	0.8	2.4	1.9*
13018	Spring Gulch	6000	12/31	16	2.6	8.2	4.8*
13007	Storm Lake	7780	12/29 12/31	10 37	1.8 8.3	8.4 20.2	6.1* 11.6*
13CO1 14BO1	Stuart Mountain TV Mountain	7400 6800	$\frac{12}{31}$	27	4.4	10.7	7.2*
TADOT	I v riountain	0000	1/ 1	~ 1	404	10.1	1 .~

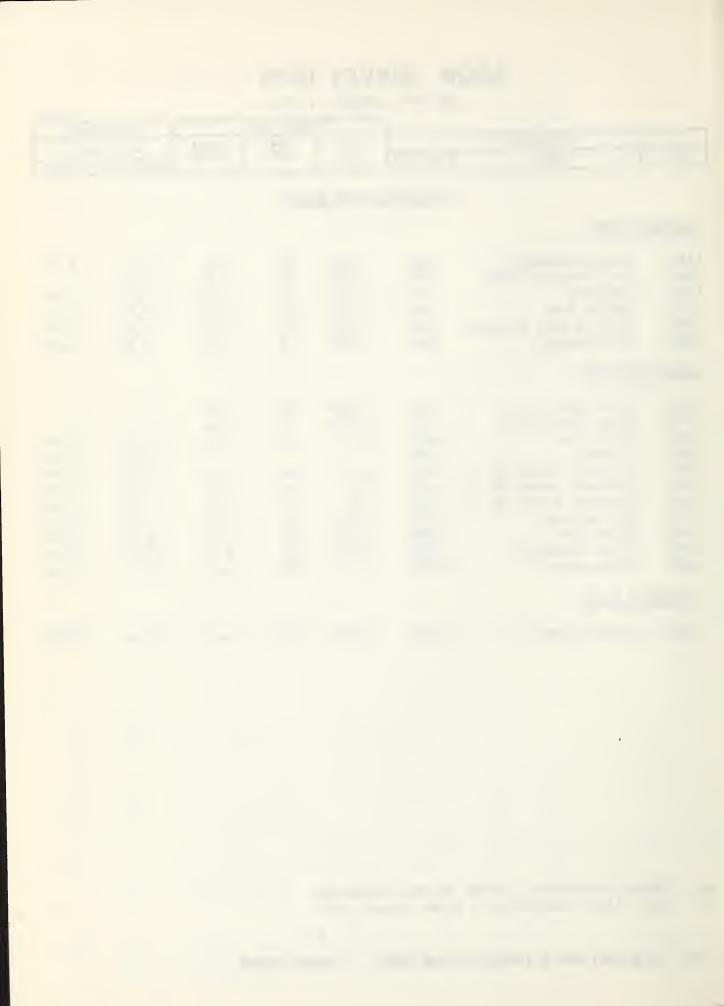
BITTERROOT RIVER

13D02 Gibbons Pass

7100 12/29 24 4.6 16.4

10.8*

A - Aerial observation - water content estimated. SP - Snow pillow observation - water content only.

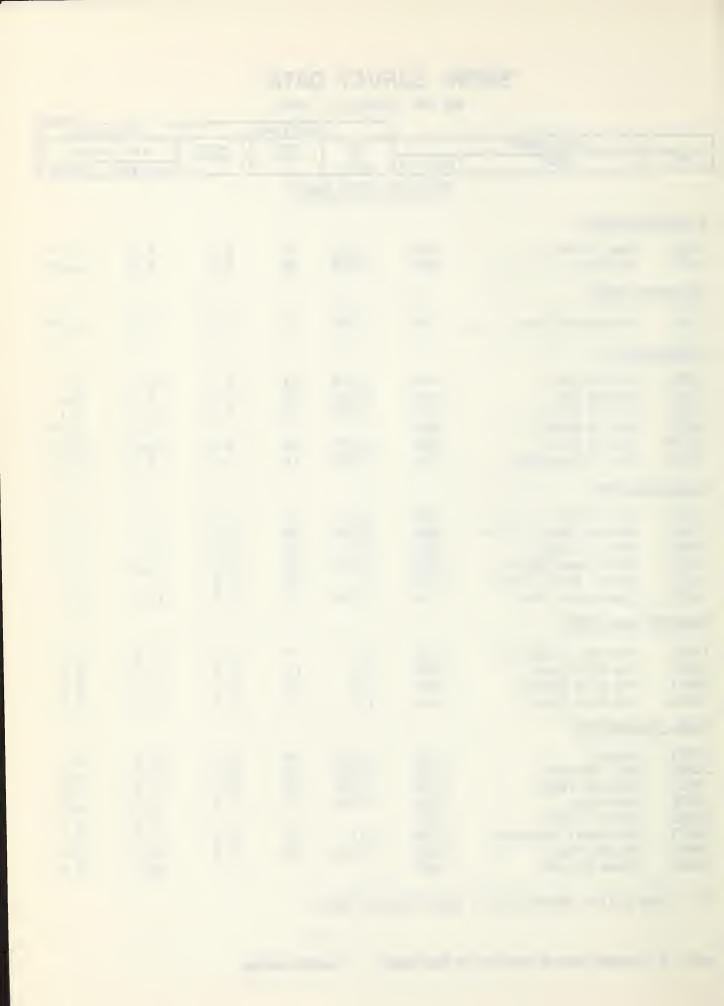


SNOW SURVEY DATA

AS OF JANUARY 1, 1966

	/	-	100547 0474	(Inches)			
SNOW COURSE		-					
NAME	ELEVATION	OF	DEPTH	CONTENT		AVERAGE	
			ASIN		TEAST TEAR [AVERAGE	
EAD RIVER							
Camp Creek Kilgore	6800 6200	12/30 12/28	19 16	3.3 2.0	6.5 5.9	3.7 4.3*	
ON RIVER							
Pipestone Pass	7200	12/28	8	1.0	2.0	2.4*	
RIVER							
Big Springs Hebgen Dam Island Park Norris Basin	6500 6550 6315 7500	12/29 12/28 12/29	23 12 19	3.3 1.3 2.5	13.3 7.3 11.5 7.2	7.9 5.4 6.1 4.3*	
Valley View West Yellowstone	6500 6700	12/29 12/28	22 15	3.4 2.0	11.2 8.0	5.5 4.9	
N RIVER							
Arch Falls Bridger Bowl Pillow Devil's Slide Lick Creek Pillow Shower Falls Pillow Twenty-One Mile	7350 7250 8100 6860 8100 7150	1/3 12/30 1/3 12/30 1/3 12/28	11 SP 19 SP SP 23	1.9 5.7 4.0 2.0 6.5 3.8	- - 4.3 - 13.8	- - - - 8.0	
I MAIN STEM							
Chessman Reservoir Ten Mile Lower Ten Mile Middle Ten Mile Upper	6200 6600 6800 8000	1/3 1/5 1/4 1/4	7 13 18 21	0.3 1.5 2.1 2.7	1.4 3.0 5.3 7.5	2.1 3.4 5.1 6.3	
ELLOWSTONE							
Canyon East Entrance Grizzly Peak Lake Camp Lupine Creek Northeast Entrance Sylvan Pass Thumb Divide	7750 7000 8400 7850 7300 7400 7100 7900	12/30 12/30 12/30 12/30 12/30	28 26 20 23 12 22	4.6 4.7 5.2 2.8 1.8 3.7	12.6 6.3 6.8 5.7 7.0 5.6 10.1 18.1	6.0 4.4* 4.0* 4.0* 4.4* 3.9 5.6* 8.9*	
	Camp Creek Kilgore ON RIVER Pipestone Pass RIVER Big Springs Hebgen Dam Island Park Norris Basin Valley View West Yellowstone N RIVER Arch Falls Bridger Bowl Pillow Devil's Slide Lick Creek Pillow Shower Falls Pillow Twenty-One Mile I MAIN STEM Chessman Reservoir Ten Mile Lower Ten Mile Middle Ten Mile Upper ELLOWSTONE Canyon East Entrance Grizzly Peak Lake Camp Lupine Creek Northeast Entrance Sylvan Pass	### ELEVATION MISSOURI ### EAD RIVER Camp Creek	SNOW COURSE ELEVATION SURVEY	NAME ELEVATION SURVEY DEPTH	MISSOURI RIVER BASIN	SNOW COURSE SLEVATION SURVEY SOUTH STATE SATE SATE	

SP - Snow pillow observation - water content only.



AS OF JULY 1, 1965

		ſ	SOIL P	ROFILE	CURREN	T DATA	PAST	RECORD
NO.	SOIL MOISTURE STATION NAME	ELEVATION	DEPTH	FIELD	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
			IA RIVER	BASTN	3011721	L!		L
		COLUMD.	LA RIVER	DASIN				
Kootenai	-	0400		~ ~	~ /~	~ 0		
15B15M 14A10M	Baree Trail Murphy Lake R.S.	3800 3000	48 48	7.5 22.6	7/5 7/1	5.8 20.4	_	_
15A02M	Raven R.S.	3050	48	23.0	7/5	20.3	_	_
©la+boad								
Flathead 13A02M	Desert Mountain	5600	54	8.4	_	_	_	8.2
13A05M	Marias Pass	5250	54	6.5	7/8	5.3	5.0	5.2
Clark For	mle							
Clark For 13C15M	Georgetown Lake	6450	48	9.0	6/30	7.7	7.4	7.4
13B19M	Seeley Lake R.S.	4030	48	11.9	-	_	-	-
13C03M	Skalkaho Summit	7260	48	10.8	6/30	10.1	-	-
Bitterro	ot							
13D18M	Gibbons Pass	7100	48	7.1	6/30	6.3	6.5	6.5
14C05M	Lolo Pass	5250	48	10.6	6/28	10.3	10.3	_
		MISSOUR	RI RIVER	BASIN				
Beaverhe	<u>ad</u>							
11E13M	Lakeview	6700	48	15.3	7/2	15.4	14.8	14.2
<u>Madison</u>								
10D04M	Red Bluff	4800	40	4.7	_	_	1.2	-
C-77-+35								
Gallatin 11DO2M	College Site	4856	54	14.5	7/2	15.2	11.0	9.7
11E06M	Twenty-One Mile	7150	48	10.0	6/28	9.2	7.6	-
Missonni	Main Stem							
10C01M	Kings Hill	7420	48	11.8	7/6	10.8	10.9	_
12C08M	Stemple Pass	6350	48	5.9	6/2	5.1	5.0	-
Yellowsto	one							
10D11M	Battle Ridge	6020	48	17.6	7/1	15.5	14.4	14.4
10D07M	Northeast Entrance	7350	48	9.4	6/30	9.8	8.8	8.6



AS OF AUGUST 1, 1965 (Inches) CURRENT DATA PAST RECORD SOIL PROFILE SOIL MOISTURE STATION DATE FIELD SOIL LAST **AVERAGE DEPTH OF SURVEY CAPACITY MOISTURE YEAR NO. NAME ELEVATION COLUMBIA RIVER BASIN Kootenai 15B15M Baree Trail 3800 48 8/4 7.5 3.9 14A10M Murphy Lake R.S. 3000 48 22.6 8/1 19.4 15A02M 8/2 Raven R.S. 3050 48 23.0 17.5 Flathead 13A02M Desert Mountain 5600 54 8/3 8.4 5.9 6.3 6.3 13A05M Marias Pass 5250 6.5 54 3.4 3.8 Clark Fork 13C15M Georgetown Lake 6450 48 8/2 9.0 3.9 4.2 4.9 13B19M Seeley Lake R.S. 4030 48 8/5 11.9 8.3 13CO3M Skalkaho Summit 7260 48 8/2 10.8 10.3 Bitterroot 13D18M Gibbons Pass 71.00 7/29 48 7.1 5.3 5.4 5.7 14C05M Lolo Pass 5250 48 10.6 7/296.4 6.4 MISSOURI RIVER BASIN Beaverhead 11E13M Lakeview 6700 48 15.3 8/2 11.7 9.2 9.1 Madison 10DO4M Red Bluff 4800 40 4.7 1.1 1.2 Gallatin 11D02M College Site 4856 54 7/30 14.5 9.8 8.4 7.6 11E06M Twenty-One Mile 7150 48 8.8 7/28 6.1 4.4 Missouri Main Stem 10C01M Kings Hill 7420 48 11.8 8/3 9.4 9.1 12C08M Stemple Pass 6350 7/30 48 5.9 4.7 5.2 Yellowstone

17.6

9.4

8/2

7/31

11.1

7.3

12.0

5.3

10.6

6.8

48

48

6020

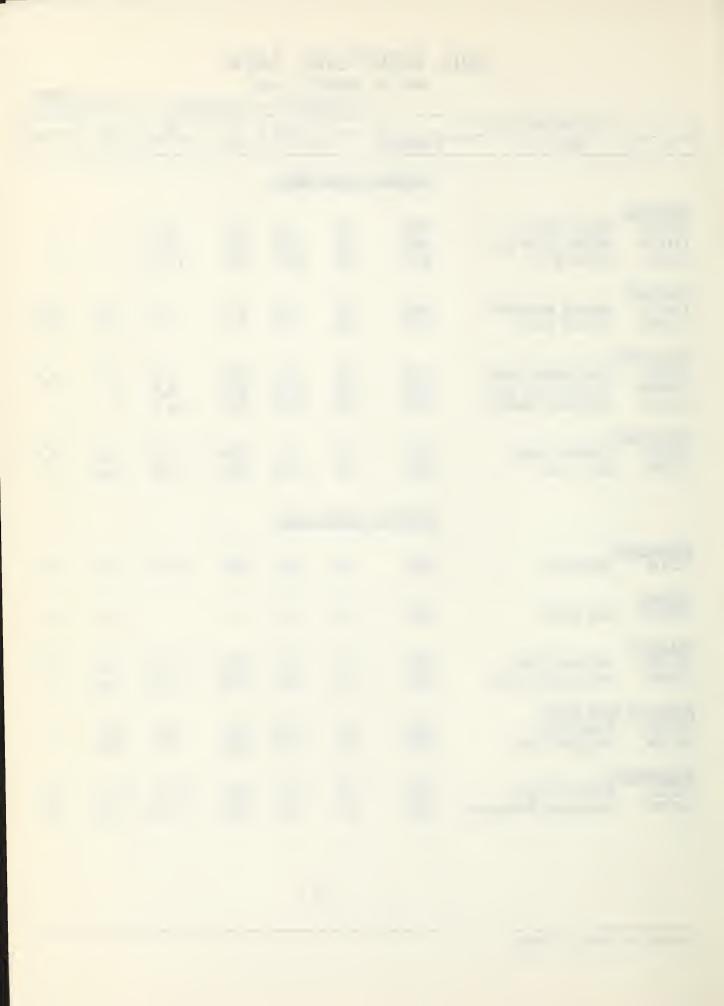
7350

Battle Ridge

Northeast Entrance

1.0D11M

10D07M



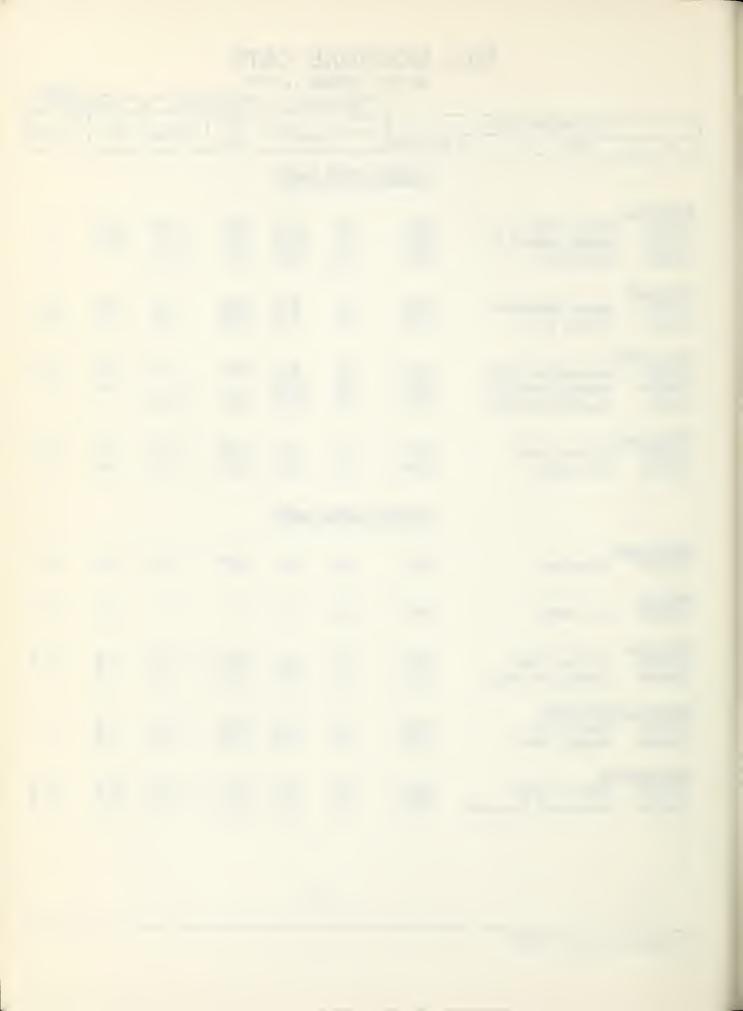
AS OF SEPTEMBER 1, 1965

			SOIL F	ROFILE	CURRENT	DATA	PAST	RECORD
NO.	SOIL MOISTURE STATION	ELEVATION	DEPTH	FIELD	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
	HACLE	LECTATION		1	SURVET			
		COLUMB]	A RIVER	BASIN				
V + 8								
Kootenai 15B15M	Baree Trail	3800	48	7.5	9/2	5.5	5.2	-
14A10M	Murphy Lake R.S.	3000	48	22.6	9/1	19.6	17.5	-
15A02M	Raven R.S.	3050	48	23.0	9/2	17.4	_	-
T12 (1)								
Flathead 13A02M	Desert Mountain	5600	54	8.4	9/1	6.9	5.7	4.8
13A05M	Marias Pass	5250	54 54	6.5	9/4	3.3	3.6	3.6
		<i>J~J</i> ¢	74	00)	// ~	J • J	300	,,,,
Clark For		,			- 1			
13C15M	Georgetown Lake	6450	48	9.0	9/1	3.0	2.7	2.6
13B19M 13CO3M	Seeley Lake R.S. Skalkaho Summit	4030 7260	48 48	11.9 10.8	9/1	10.5	_	_
1700011	DESTRATIO DUMILLO	1200	40	10.0	7/1	10.7	_	-
Bitterro								
13D18M	Gibbons Pass	7100	48	7.1	8/30	5.9	5.1	5.0
14CO5M	Lolo Pass	5250	48	10.6	8/30	5.6	6.1	enc.
		MISSOUF	RIVE	BASIN				
Beaverhea	ad							
11E13M	Lakeview	6700	48	15.3	9/1	7.1	7.8	7.0
M 18								
Madison 10D04M	Red Bluff	4800	40	4.7	9/8	1.2	1.6	1.5
тороди	Med Didii	4000	40	4.01	7/0	1.2	1.0	1.07
Gallatin								
11D02M	College Site	4856	54	14.5	9/3	8.3	8.5	6.8
11E06M	Twenty-One Mile	7150	48	10.0	8/30	3.6	2.5	-
Missouri	Main Stem							
10C01M	Kings Hill	7420	48	11.8	8/27	9.6	8.6	-
12C08M	Stemple Pass	6350	48	5.9		4.3	5.3	
Vall								
Yellowsto 10D11M	o <u>ne</u> Battle Ridge	6020	48	17.6	9/1	11.1	10.8	8.9
10D11M	Northeast Entrance	7350	48	9.4		6.0	5.2	5.7
			•	, , ,	,			



AS OF OCTOBER 1, 1965

			SOLL F	ROFILE	CURRENT	T DATA	PAST	RECORD
	SOIL MOISTURE STATION			FIELD	DATE	SOIL	LAST	
NO.	NAME	ELEVATION	DEPTH	CAPACITY	OF SURVEY	MOISTURE	YEAR	**AVERAGE
<u> </u>		COLIMBI	A DITTER	DACTN				,
		COLUMBI	A KIVE	DASIN				
Kootenai								
15B15M	Baree Trail	3800	48	7.5	10/4	5.6	5.5	-
14A10M	Murphy Lake R.S.	3000	48	22.6	10/1	18.6	17.2	_
15A02M	Raven R.S.	3050	48	23.0	10/4	18.0	_	=
Flathead								
13A02M	Desert Mountain	5600	54	8.4	10/1	7.1	5.6	5.4
13A05M	Marias Pass	5250	54	6.5	9/27	5.8	4.4	3.7
Clark For	nk							
13C15M	Georgetown Lake	6450	48	9.0	10/1	4.7	2.8	2.6
13B19M	Seeley Lake R.S.	4030	48	11.9	,	,	5.4	_
13CO3M	Skalkaho Summit	7260	48	10.8	10/1	10.5	-	-
Bitterro	h							
13D18M	Gibbons Pass	7100	48	7.1	9/29	6.3	5.4	5.2
14CO5M	Lolo Pass	5250	48	10.6	10/1	7.1	8.4	-
		MISSOUR	T DTIFE	DACTN				
		MIDDOUN	T ICTATE	DASIN				
Beaverhea					,			
11E13M	Lakeview	6700	48	15.3	10/7	6.0	5.4	6.2
Madison								
10D04M	Red Bluff	4800	40	4.7	-		1.2	1.9
Gallatin	0.11 0.4	100	F 1	7 / 6	30/3	11.0	4.0	(a
11D02M 11E06M	College Site Twenty-One Mile	4856 7150	54 48	14.5 10.0	10/1 9/28	11.9 3.6	8.9 1.7	6.8
TILLOOM	I worldy One mile	11)0	40	10.0	// 20	J.0	T. 0.1	_
	Main Stem				,			
10C01M	Kings Hill	7420	48	11.8	9/30	10.1	8.3	esc.
12C08M	Stemple Pass	6350	48	5.9	10/1	5.4	4.5	wats.
Yellowsto	one							
10D11M	Battle Ridge	6020	48	17.6	9/30	14.8	10.4	8.9
10D07M	Northeast Entrance	7350	48	9.4	10/1	8.1	4.6	6.8



AS OF NOVEMBER 1, 1965

(Inches) SOIL PROFILE CURRENT DATA PAST RECORD SOIL MOISTURE STATION DATE SOIL FIELD LAST **AVERAGE DEPTH OF MOISTURE YEAR CAPACITY NO. NAME ELEVATION SURVEY COLUMBIA RIVER BASIN Kootenai 15B15M Baree Trail 3800 48 7.5 11/1 5.3 6.1 14.A10M Murphy Lake R.S. 3000 4.8 22.6 11/1 18.9 18.3 15A02M Raven R.S. 3050 48 23.0 11/1 17.7 Flathead 13A02M Desert Mountain 5600 54 8.4 11/1 6.7 7.1 5.9 13A05M Marias Pass 5250 54 6.5 4.8 4.6 Clark Fork 13C15M Georgetown Lake 6450 48 9.0 11/2 2.8 2.5 4.4 13B19M Seeley Lake R.S. 4030 48 11.9 11/1 8.8 13CO3M Skalkaho Summit 7260 48 10.8 11/2 10.4 Bitterroot Gibbons Pass 13D18M 7100 48 10/29 6.0 7.1 5,3 5.7 14CO5M Lolo Pass 5250 48 10.6 11/1 6.8 7.1 MISSOURI RIVER BASIN Beaverhead llEl3M Lakeview 6700 48 11/1 15.3 5.8 6.4 6.0 Madison 10D04M Red Bluff 4800 40 4.7 11/10 2.3 1.5 Gallatin 11D02M College Site 4856 54 14.5 10/29 9.8 8.0 7.4 11E06M Twenty-One Mile 7150 48 10.0 10/28 3.4 Missouri Main Stem locolm Kings Hill 7420 48 11/1 11.8 9.7 8.3 12C08M Stemple Pass 6350 48 5.9 10/29 4.7 4.3 Yellowstone 10D11M Battle Ridge 6020 48 17.6 11/3 1353 11.6 10.9 10D07M Northeast Entrance 7350 48 9.4 10/31 8.0 5.3 7.0

AS OF DECEMBER 1, 1965 (Inches) PAST RECORD CURRENT DATA SOIL PROFILE SOIL MOISTURE STATION DATE SOIL MOISTURE LAST YEAR FIELD * * AV ERAGE DEPTH OF SURVEY CAPACITY ELEVATION NAME NO. COLUMBIA RIVER BASIN Kootenai 6.7 15B15M 6.3 Baree Trail 3800 48 7.5 12/1 18.4 14AlOM Murphy Lake R.S. 3000 48 22.6 12/1 19.3 15A02M Raven R.S. 3050 48 23.0 12/1 20.3 20.0 Flathead 13A02M Desert Mountain 5600 54 8.4 6.5 12/3 5.3 13A05M Marias Pass 5250 54 5.3 4.8 Clark Fork 13C13M Black Pine 7100 48 11/29 13C15M Georgetown Lake 6450 48 4.2 2.9 9.0 3.0 13B19M Seeley Lake R.S. 4030 48 12/1 9.7 4.6 11.9 Skalkaho Summit 7260 48 13CO3M 10.8

48

48

11/29

11/29

5.7

7.4

4.7

7.1

5.5

7.1

10.6

		MISSOUR	RI RIVE	R BASIN				
Beaverhea 11E13M	<u>d</u> Lakeview	6700	48	15.3	12/3	6.1	6.2	6.9
Madison 10D04M	Red Bluff	4800	40	4.7	12/4	1.7	ohili,	æ
Gallatin 10D15M 11D02M 10D13M 11E06M	Bridger Bowl College Site Lick Creek Twenty-One Mile	7250 4856 6860 7150	48 54 48 48	14.5	12/1 12/3 11/30 11/29	14.4 10.0 12.6 2.7	9.5 - 1.3	8.7
Missouri 10C01M 12C08M	<u>Main Stem</u> Kings Hill Stemple Pass	7420 6350	48 48	11.8	11/29	9.2 4.6	7.8 4.0	690) 690)
Yellowsto 10D11M 10D07M	<u>ne</u> Battle Ridge Northeast Entrance	6020 7350	48 48	17.6 9.4	12/1 11/30	13.6 7.8	12.9 6.0	12.1

7100

5250

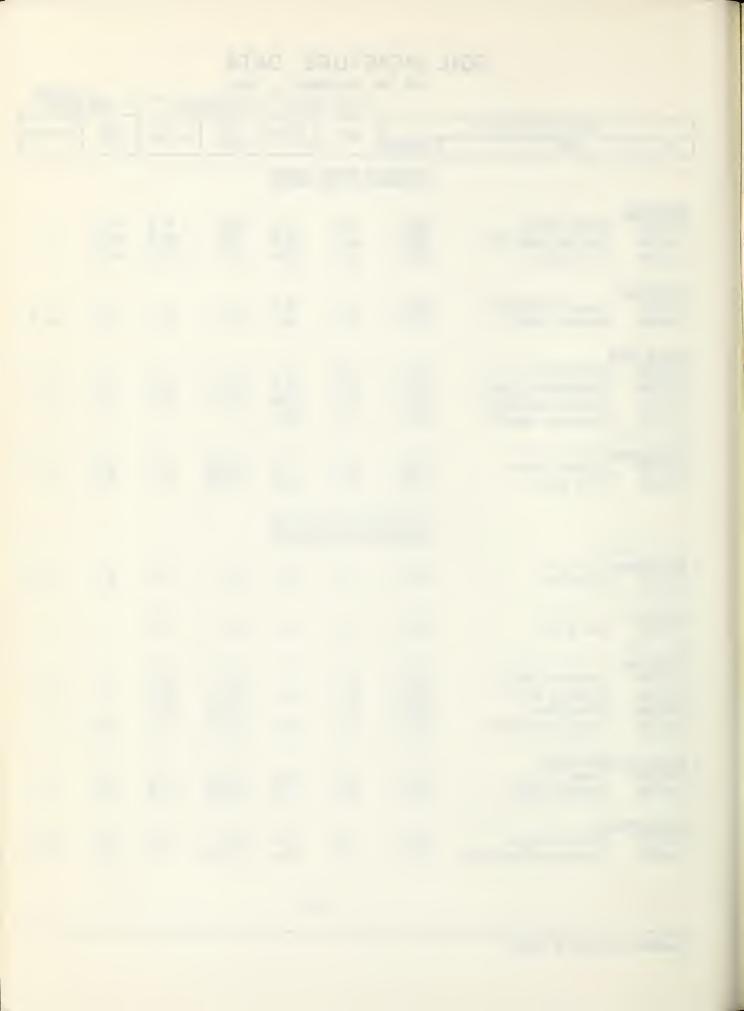
Bitterroot

13D18M

14CO5M

Gibbons Pass

Lolo Pass



AS OF JANUARY 1, 1966

		(SOIL	PROFILE	CURRENT	DATA	PAST	RECORD
	SOIL MOISTURE STATION		DEPTH	FIELD	DATE OF	SOIL	LAST	**AVERAGE
NO.	NAME	ELEVATION	DEFIN	CAPACITY	SURVEY	MOISTURE	YEAR	AVERAGE
		COLUMBIA	RIVER	BASIN				
Kootenai 15B15M	Baree Trail	3800	48	7.5				
14A10M	Murphy Lake R.S.	3000	48	22.6	12/30	19.3	19.1	
15A02M	Raven R.S.	3050	48	23.0	1~750	2,00	21.5	_
Flathead								
13A02M	Desert Mountain	5600	54	8.4	12/30	7.2	7.1	6.6
13A05M	Marias Pass	5250	54	6.5	1~750	, , , ,	5.4	4.8
Clark For	ole .							
13C13M	Black Pine	7100	48	10.0	12/28	4.8	_	_
13C15M	Georgetown Lake	6450	48	9.0	12/29	3.8	3.0	2.9
13B19M 13C03M	Seeley Lake R.S. Skalkaho Summit	4030 7260	48	11.9	1/3	9.9	6.9	
1,000 M	Skarkano Sumire	1200	48	10.8	was.	-	GR	
Bitterroc					- (
13D18M 14C05M	Gibbons Pass Lolo Pass	7100 5250	48 48	7.1 10.6	12/29 12/29	4.9 6.3	5.2 8.5	5.6
1400)11	noto tass)	40	10.0	12/29	0,5	0.7	_
		MISSOURI	ם קוווים	BASTM				
		MIDDOURI	. ILTADIL	DAOIN				
Beaverhea		(200		2	/			
11E13M	Lakeview	6700	48	15.3	12/31	6.1	11.2	8.5
Madison								
10D04M	Red Bluff	4800	40	4.7	1/3	1.8	2.2	2.1
Gallatin								
10D15M	Bridger Bowl	7250	48	15.8	12/30	14.3	-	6805
11D02M	College Site	4856	54	14.5	12/30	11.4	9.8	8.7
10D13M	Lick Creek	6860	48	18.8	12/30	12.3		662
11E06M	Twenty-One Mile	7150	48	10.0	12/31	3.1	1.3	680
	Main Stem				,			
10C01M 13C08M	Kings Hill Stemple Pass	7420 6350	48 48	11.8	12/30 1/3	9.1	7.8	~
1,000%	prempte raps	0))0	40	7.7	1/3	4.4	4.2	-
Yellowsto		(000	, ,	257 (20/22			
10D11M 10D07M	Battle Ridge Northeast Entrance	6020 7350	48 48	17.6 9.4	12/30 12/31	13.3 7.7	14.6	12.2
1000/11	nor chease birerance	1970	40	7.4	12/31	101	5.8	7.0

^{- 12 -}

^{**}AVERAGE FOR PERIOD OF RECORD



RESERVOIR STORAGE DATA

AS OF DECEMBER 31, 1965

	AS OF	DECEMBER 3.	1, 1905		(1000 Acre Feet)
				USEABLE STORAG	E
BASIN	RESERVOIR	USEABLE CAPACITY	THIS	LAST YEAR	AVERAGE
COLUMBIA RIVI	ER BASIN		-		
Flathead	Hungry Horse Flathead Lake Camas (Sum of 4) Mission Valley (Sum of 8)	3,428.0 1,791.0 45.2 100.3	27.3 53.9	3,222.0 1,406.0 17.0 35.2	1,297.0 30.7 29.4
Clark Fork	Georgetown Lake Noxon Rapids	31.0 334.6	28.8	29.6 330.4	mat,
Bitterroot	Como Painted Rocks	34.9 31.7		9.8	8.8 15.1**
MISSOURI RIVI	ER BASIN				
Beaverhead	Clark Canyon Lima	328.9 84.0	148.9 43.7	55.1 45.5	25.6
Ruby	Ruby	38.8	200		15.7**
Madison	Hebgen Lake Ennis Lake	377.5 41.0	39.3	220.8	36.9
Gallatin	Middle Creek	8.0	1.2	3.5	3.0**
Missouri	Canyon Ferry Hauser & Helena Lake Helena	2,043.0 61.9 10.4	1,641.0 61.3 10.2	1,878.0 62.4 10.7	55.3
	Holter Lake Smith River	81.9 10.7	68.7	67.6 8.1	5.0**
	Ackley Lake Durand	5.8 7.0		5.2	3.6 3.7** 7.6**
	Martinsdale Deadman's Basin Fort Peck	23.1 72.2 19,410.0	17,280.0	7.6 38.8 15,500.0	40.5**
Sun	Gibson Willow Creek	105.0	60.4	40.2	52.5
Marias	Pishkun Lower Two Medicine	32.0	18.8	17.5	18.8
***************************************	Four Horns Swift	19.2	12.2		10.5 17.4
	Lake Frances Tiber	112.0 1,347.0	666.3	668.0	91.9 624.4**
Milk	Fresno Nelson	127.2	88.8 53.5	67.7 38.5	61.9
	Lake Sherburne	66.1	8.7	-	17.1
Yellowstone	Mystic Lake Tongue River	20.8 68.0	15.8	15.1	11.5
Dia Wann	Cooney	27.5 550.0	17.0 399.4	12.2 360.8	
Big Horn	Boysen Buffalo Bill Bull Lake	373.1 152.0	296.1	179.4 91.1	203.0 77.8
	Yellowtail	***	13 -	~	•



Agencies Cooperating in Collecting Data Contained in this Bulletin

- U. S. Forest Service Region 1, Missoula, Montana
- U. S. Geological Survey Helena, Montana
- U. S. Army Corps of Engineers Portland, Oregon Seattle, Washington Omaha, Nebraska
- U. S. Indian Irrigation Service St. Ignatius, Montana
- U. S. Weather Bureau Helena, Montana
- U. S. Bureau of Sports Fisheries and Wildlife Red Rock Lakes Refuge Monida, Montana
- U. S. Bureau of Reclamation Billings, Montana Boise, Idaho
- U. S. Soil Conservation Service Montana, Wyoming, Idaho
- Soil and Water Conservation Districts Montana Counties
- U. S. Bonneville Power Administration Portland, Oregon

- U. S. National Park Service Yellowstone National Park Glacier National Park
- Montana Power Company Butte, Montana
- State Water Conservation Board Helena, Montana
- North Montana Branch Station Agricultural Experiment Station Havre, Montana
- Montana State University
 Agricultural Experiment Station
 Bozeman, Montana
- University of Montana School of Forestry Missoula, Montana
- Johnson Flying Service, Inc. Missoula, Montana
- Water Rights Branch, Dept. of Lands and Forests Victoria, British Columbia
- Department of Northern Affairs and National Resources Calgary, Alberta

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